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BEFORE THE:

U.S. HOUSE OF REPRESENTATIVES
COMMITTEE ON RESOURCES

SUBCOMMITTEE ON FISHERIES AND OCEANS

CONCERNING:
The Natural Resource Impacts Caused by Hurricanes Katrina and Rita to the Louisiana Gulf Coast and National Wildlife Refuges

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WASHINGTON, DC

Introduction

Mr. Chairman, and members of the Subcommittee, my name is Don Young. I am the Executive Vice President of Ducks Unlimited (DU). Ducks Unlimited is a non-profit wetlands conservation organization, with affiliates in Canada and Mexico. In my role as the staff leader for Ducks Unlimited, I manage our employees and provide leadership to our volunteers and members in all 50 states.

Ducks Unlimited was founded in 1937 by concerned and farsighted sportsmen-conservationists. It has grown from a handful of people to an organization of over 1,000,000 supporters who now make up the largest wetlands and waterfowl conservation organization in the world.

Since our inception, DU has conserved more than 11.5 million acres of wildlife habitat in the U.S., Canada, and Mexico. DU prides itself on our work with private landowners and our ability to assist and advise farmers, ranchers, and foresters in order to meet their economic goals while still providing high quality habitat for the wildlife.

Ducks Unlimited has a simple and focused mission: "Ducks Unlimited conserves, restores and manages wetlands and associated habitats for North America's waterfowl. These habitats also benefit other wildlife and people." Given this mission, it is understandable that DU has a strong connection to the U.S. Fish and Wildlife Service (Service) and the National Wildlife Refuge System. There is much in common between DU's mission and that of the Service and the National Wildlife Refuge System.

Ducks Unlimited has an extensive science and technical staff with over 30 PhD biologists in North America and over 100 Master's level scientists. In the late 1980s, DU developed an International Conservation Plan to help guide the location and focus of our conservation work, and it is updated routinely to keep it current with changing habitat and duck population data. Our International Conservation Plan identifies five highest priority areas critical for the life cycle of North American waterfowl, with a focus on either breeding, migration or wintering habitats. The coast of Louisiana is the major portion of one of these top five priority areas!

As an indication of how important Louisiana's wetlands are to DU, shortly after Hurricane Katrina, Ducks Unlimited pledged to direct $15 million toward the restoration of Louisiana's coastal wetlands. We intend to partner with federal, state, private, and nonprofit entities in fulfilling this pledge and leveraging the money.

Ducks Unlimited is proud to have been involved with the first post-hurricane wetlands restoration project, which was completed last October. In this North American Wetlands Conservation Act (NAWCA) project, DU partnered with a host of local, state, federal, private and nonprofit organizations to restore and enhance 4,736 acres of coastal marsh in the Point-aux-Chenes State Wildlife Management Area. Point-au-Chenes and the surrounding marshes provide habitat to tens of thousands of waterfowl, representing many species, especially Gadwalls, Green-Winged and Blue-Winged Teal, and Lesser Scaup. It also benefits many other birds like shore birds, wading birds, songbirds and other wildlife like alligators. We hope to continue our

partnership efforts through NAWCA to restore and protect the critical coastal marshes in Louisiana.

Ducks Unlimited's response to the hurricanes did not end with our commitment to help mitigate wetland damage. On a more personal level, the immediate past Chairman of the Board of Ducks Unlimited, Dr. L.J. Mayeaux from Marksville, LA, coordinated Ducks Unlimited members and supporters from around the country in a hurricane relief effort. To date, this humanitarian relief effort has shipped well over 40 tons of food, water and supplies to the hurricane victims along the Gulf coast and, although retired, Dr. Mayeaux re-opened his medical clinic to serve hurricane evacuees.

Hurricanes Katrina and Rita are terrible tragedies that must not fade from our country's consciousness. The nation's first priority must continue to be to help those in need and to get our devastated communities back on their feet. We must respond in a way that does justice to those whose lives have been lost and whose homes have been destroyed, so that we can prevent disasters like this from happening in the future.

In a letter dated March 2, 2006 from Chairman Pombo, of the House Resources Committee, to Congressman Jerry Lewis, Chairman of the House Appropriations Committee, Chairman Pombo takes a very strong position in support of wetland restoration in Louisiana. The letter deals with President Bush's most recent supplemental appropriations request. In this letter, when speaking about the $132.4 million request slated for the U.S. Fish and Wildlife Service, Congressman Pombo says:

> ***"Mr. Chairman, I strongly support this request and believe it will go a long way towards reducing the preliminary damage estimates to the refuge system of $208 million dollars. … However, I would urge that you broaden the availability of these funds to include resource restoration. It is absolutely critical that these coastal wetlands be restored because they are the lifeblood of these wildlife resources and are absolutely necessary for the stability of the coastal region."***

Chairman Pombo is correct. Ducks Unlimited would like to take this opportunity to provide scientific support and empirical evidence to support Mr. Pombo's statements. DU's testimony will stress the importance of wetland restoration as the Service repairs its refuges and other federal agencies work to help Gulf Coast communities recover from hurricanes Katrina and Rita. The loss of coastal wetlands, especially along the Louisiana Gulf coast, was a problem long before last year's terrible hurricane season. This devastating land loss continues at an alarming rate. The dramatic loss of wetlands needs to be factored into recovery plans, not only to address current natural resource restoration needs but, even more importantly, to provide a wetland buffer to reduce the impact of future hurricanes. This recovery approach is also financially responsible since the restoration of coastal wetlands will help to protect the huge capital investments the American taxpayer will be making as we rebuild coastal communities, levees, and refuges.

In this testimony Ducks Unlimited will first explain and discuss the unique importance of the Louisiana Gulf Coast to migratory waterfowl and other wildlife. Next the challenging issue of

coastal loss in Louisiana (flooding, subsidence, and erosion) will be outlined and described. There will then be a report of how these terrible hurricanes have impacted migratory birds. This will overlay a discussion of which National Wildlife Refuges along the Louisiana Gulf Coast were most damaged by Hurricanes Katrina and Rita and a description of which of the damaged refuges are most important to waterfowl. The testimony will conclude with a discussion of what actions should be taken by the U.S. Fish and Wildlife Service and how Ducks Unlimited can be of assistance.

Importance of Gulf Coast to Migratory Birds

The Louisiana and Texas Gulf Coasts are very important to the mission of Ducks Unlimited, and to this nation. The coastal wetlands of Louisiana and Texas provide critical habitat for North American waterfowl populations as well as a tremendous diversity of other birds, fish, and other wildlife. This unique coastal wetland ecosystem annually provides a winter home for between 6 and 10 million ducks and geese, and millions of wading birds, shorebirds, and other species of wetland-dependent species of migratory birds, as well as many other wildlife species.

Specifically, over 70% of the Gadwall and Green-Winged Teal populations in North America rely on this unique wetland habitat along the Louisiana coast. Additionally, at least 40% of all Lesser Scaup and 25% of Northern Pintail and American Widgeon populations in North America depend upon habitat provided by Louisiana's coastal wetlands. Coastal Louisiana also provides wintering habitat to about 20% of North American populations of Snow Geese and White-fronted geese using the Mississippi flyway. That is about a half a million geese each year. It is also important to note that the Louisiana coast is home to the Mottled Duck, which is a non-migratory species. These ducks spend their entire life cycle in this coastal habitat, and over 90% of the North American population of Mottled Ducks lives along the Gulf Coast of Louisiana and Texas, 60% in Louisiana alone. In short, the Louisiana and Texas Gulf coasts, with their unique mix of saline, brackish, and freshwater marsh habitats, are critical to the life cycle of North American ducks.

Coastal Louisiana is also considered one of the continent's premier stop-over spots for shore birds to use during their migration, providing critical migration and winter habitat for millions of American Avocets, Marbled Godwits, Whimbrel, Semi-palmated Sandpipers, and at least 35 other species of shorebirds in North America. Similarly, it supports substantial breeding populations of colonial water birds such as Roseate Spoonbills, Snowy Egrets, and Royal, Least and Sandwich Terns. While bird watching along the Louisiana coast, famed ornithologist and artist Roger Tory Petersen was once reported to say that he saw the largest colony of Sandwich Tern in the world, with over 40,000 breeding pairs.

Coastal Louisiana also provides critical habitat to several birds on the endangered species list, including the Brown Pelican, the Piping Plover, and the Bald Eagle. If the Louisiana coast continues to erode these species may never make it off the endangered species list, or they could even become extinct.

Over-Arching Problem of Coastal Loss in Louisiana

The Hurricane Katrina and Rita events of 2005 are estimated by US Geological Survey to have devastated 181 square miles of coastal wetlands. Even a normal year's coastal wetlands loss shrinks Louisiana's wetlands by 25 square miles because river sediments that once spread out and replenished the Mississippi River's coastal delta are now funneled into the Gulf of Mexico. These wetlands once served as a natural hurricane buffer, reducing storm surge and absorbing wind and wave energy. More than 1 million acres of these coastal wetlands -- or 1,900 square miles -- have been lost since 1930. If this land loss is not reversed, nothing can be done to secure Louisiana from future storm damage

Here is a scenario that puts this issue of the disappearing coast into terms closer to home for the people in attendance at today's hearing. Let's assume that Capitol Hill is the highest point of land in the 61 square mile District of Columbia, and let's further assume that the Potomac River is eroding and flooding the District of Columbia at the exact same rate that coastal wetlands are being lost in Louisiana. If this scenario were to begin here today, the only land that would be left above water 2 years and 3 months from now would be Capitol Hill; so you folks would be commuting to work by boat. This rate of land loss is not an exaggeration, it is happening at this very moment on the coast of Louisiana. We're losing towns, we're losing roads, we're losing marshes, and we're losing refuges.

The fundamental problem along the Louisiana coast is an induced collapse resulting from hydrologic changes and wetland conversions on a landscape scale. To be sure, there are factors other than human activities that contribute to this situation, but it is beyond dispute that the principled drivers are related to efforts to confine the Mississippi River, facilitate navigation, and promote the exploration and production of oil, gas, and other subsurface minerals. This statement is not meant to be critical, but rather to make the simple point that for much of the last 150 years it was the aim of our society—and often federal policy—to channelize our waterways, convert our wetlands, support the exploration, production and transportation of oil and gas, and facilitate deep-draft and coastal navigation. There were often good reasons for those actions and policies, but they came with a cost that was not adequately appreciated or understood at the time. Now we know the price of all that progress--over one million acres of land lost to subsidence and erosion since 1900 and an ongoing loss of nearly 25 square miles each year in Louisiana alone.

The response to this calamitous land loss must be both systematic and long-term. To approach it too narrowly or with short-term fixes is to court certain disaster and sustain loss of what is among the most important wetland systems in North America, perhaps in the world. The restoration effort that DU seeks will not replace the million-plus acres of land that have been lost. Rather, it will restore a functional balance to this coastal ecosystem, so that it becomes ecologically, culturally and economically sustainable. The key to sustainability is to work with the same natural forces that built and nurtured these lands over thousands of years principally the Mississippi River and its tributaries. For those who live along the river or in its coastal plain, it has always been necessary to balance and rebalance our relationship with the river and our waters. Many of the decisions that are now driving our coastal collapse made it possible at one time to live and prosper there, but unless a new balance is struck, and struck soon, this place will

cease to exist. It is no exaggeration to say that the continued collapse of this area could claim tens of thousands of lives in increasingly flood-prone areas, wipe out one of the greatest biological and estuarine treasures in the world, and severely disrupt our nation's energy and transportation system. This is a global environmental problem as well as a national security issue for the U.S.

Another critical point is that these lost wetlands once served as a natural hurricane buffer, reducing storm surge and absorbing wind and wave energy. It is estimated that a hurricane's storm surge is reduced by 1 foot for every square mile of coastal wetlands that it travels over. Therefore, coastal wetlands act as a "speed bump" for hurricane damage, a very important line of defense in a comprehensive flood protection system. This valuable coastal storm surge buffer will be lost forever if the wetland loss is not reversed.

Post-Hurricane Conditions and Impacts on Migratory Birds

It may come as a surprise to some, but historically hurricanes have played an important ecological role in maintaining the health and productivity of the Louisiana coastal wetlands. Saltwater storm surge and extreme winds combined to "shock" the marsh, and in ways analogous to prairie wildfires of pre-settlement North America, often reinvigorated coastal marshes. The storms changed plant communities and kept them productive and vigorous. Typically, negative short-term effects of less than a year were offset by long term gains in habitat quality in subsequent years.

Today, any beneficial effects of hurricanes on marsh productivity are reduced and limited. Because of the vast scale of alterations to marsh hydrology, the storms now can cause significantly more permanent wetland loss and damage than in historical times. The U.S. Geological Survey (USGS) estimates that nearly 100 square miles of marsh were lost in southeastern Louisiana as a result of Hurricane Katrina alone. Historically, these losses would have been repaired naturally over a relatively short period of time as the Mississippi River delivered new sediment to rebuild affected areas. Today, levees prevent the river from repairing this marsh, and losses from storms like Katrina are essentially permanent.

Some areas of coastal wetlands impacted by Katrina and Rita will recover and perhaps provide short-term benefits in terms of their productivity and value as wildlife habitat. Unfortunately however, in most impacted areas, natural processes are so interrupted that the long-term net outcome will be accelerated rates of loss for these important coastal wetlands. As mentioned previously, this system is in dire need of large-scale restoration. Until restoration needs are met, wetland losses will continue, and rates of loss very likely will be exacerbated by future storm events. The impact on populations of migratory birds is predictable – it is very clearly established that wildlife populations go the way of the habitat they depend upon. In this case, loss of wetlands along Louisiana's coast will negatively impact populations of waterfowl and other migratory birds over the long term.

While it is too early to give a complete assessment of the results of the two storms, we do know that the coastal marshes of Louisiana need to maintain the capacity to recover. Louisiana's

coastal marshes have experienced numerous changes that have reduced their ability to respond and recover from natural events that include hurricanes. To rebuild the capacity of the coastal marshes to recover, various restoration features have been proposed and some have been implemented throughout Louisiana.

In the Chenier Plain portion of southwestern Louisiana, the primary features include levees and water control structures. Those features are needed as a result of man-made channels that have altered the hydrology of those natural systems. Those channels allow increased tidal fluctuation and provide avenues for higher-salinity water to enter the fragile marshes. The levees and structures are an effort to reduce tidal amplitude and reduce the intensity of saltwater that enters those systems. Those features need refurbishment and replacement to ensure that the marshes of the Chenier Plain maintain their ability to recover from future hurricanes like Katrina.

In the Mississippi River Coastal Wetlands area of southeastern Louisiana, the primary feature is the ability to use fresh, sediment-laden water beneficially. This is achieved by restoration techniques like freshwater diversions, siphons, and delta splays. Initial assessments have indicated that, across Southeastern Louisiana, these features themselves appear to have fared well in the storms. Southeast coastal marshes containing these features can continue to use the sediment laden river water and provide the right conditions for these marshes to recover. Unfortunately there are other places that need these types of restoration features, and the impacts of the recent storms have increased that need.

At this time it is difficult to give a comprehensive assessment of the storm's impact on migratory birds. Currently it is important to focus efforts on assessing the damage to habitat restoration features and begin repairing what has been compromised, so that the marsh has the capacity to recover from the recent events in a natural manner. Without these restoration efforts, coastal wetland loss can be expected to increase on refuge lands and other lands.

Status of Hurricane-Impacted National Wildlife Refuges

The 2005 hurricane season caused damage on 66 National Wildlife Refuges in the states of Texas, Louisiana, Mississippi, Arkansas, Alabama, and Florida. The storms caused major destruction to buildings, roads and other Refuge infrastructure. Less obvious, but even more important from the standpoint of the Refuge System's mission, is the damage suffered by wildlife and natural resources on Refuge lands and adjacent areas. Measurable impacts to natural resources include significant loss of bottomland forests; reduction in water management capability of levees and dikes; transformation of wetlands due to saltwater intrusion; infiltration of aquatic invasive species, and significant erosion due to ocean tides. DU is working with the Service and other partners to determine the full extent of the damage on coastal wetlands in the region and long-term impacts on waterfowl populations.

Approximately 1/3 of the refuges affected are in the state of Louisiana. Hurricane Katrina caused severe damage to refuges in southeastern Louisiana, while Hurricane Rita devastated the refuges of southwestern Louisiana. As previously mentioned in this testimony, preliminary assessment of Southeast Louisiana suggests that more than 100 square miles of wetlands have

been transformed from productive marsh to unproductive open water as a result of the hurricanes.

Habitat restoration within the impacted Refuges and adjacent areas is critical to local communities and to their efforts to rebuild their economies in the wake of two devastating hurricanes. According to the U.S. Fish and Wildlife Service, visitation at hurricane-affected refuges exceeded 4.5 million visitors in 2005, including 250,000 visitors at Sabine Refuge, located in southwestern Louisiana. Hunters, anglers, birdwatchers, photographers and other outdoor enthusiasts who visited Sabine Refuge contributed $9 million to the local economy and generated $1 million in tax revenue. This type of economic return is evident at other refuges in the region and throughout the entire Refuge System. As we move forward with repair, a critical first step is for habitat damage to be addressed in a timely manner to enable visitors to observe and enjoy the wildlife and natural resources that flourished on these refuges prior to the hurricanes.

Hurricane Rita caused significant damage to Sabine Refuge in another way. Reports indicate that over 1,700 acres of the Refuge are covered with debris, and at least 1,400 items of potentially hazardous materials have been identified. Bayou Sauvage, Cameron Prairie, Lacassine, Bon Secour and Delta Refuges have also been impacted by heavy debris. As the Service and partners continue the assessment of resource damage, it is important to be aware that in some cases removing debris (biodegradable and non-hazardous) may cause more harm to sensitive marshlands than leaving it in place. If human safety is not a risk, the Service should let nature repair itself and invest their limited professional and financial resources on habitat restoration efforts. Cleaning up some material will harm more than help the marsh.

National Wildlife Refuges Critical to Migratory Birds

Several of the National Wildlife Refuges (NWR) that are located along the coast of Louisiana are extremely important to migratory waterfowl. They include, from west to east, Sabine NWR, Cameron Prairie NWR, Lacassine NWR, Mandalay NWR, Bayou Sauvage NWR, Big Branch NWR, Delta NWR, and Breton NWR. All of these refuges provide essential and significant habitat to waterfowl, other migratory birds, and a host of other wildlife species. Some NWRs, such as Sabine, Cameron Prairie, Lacassine and Delta, are more important for waterfowl, whereas others like Breton are more important for colonial nesting water birds like Brown Pelicans and Royal Terns. We also note that, farther east, the Mississippi Sandhill Crane NWR provides key habitat for this unique subspecies of wetland-dependent bird.

The coastal Louisiana refuges (federal and state) provide important natural as well as managed habitat for waterfowl. Over recent decades, managed habitat has become increasingly valuable given the large-scale alterations and loss of natural habitats related to causes previously discussed. Hence, DU recommends that adequate funds are used for, and that the Service places priority upon, the repair of habitat management infrastructure. In highly altered wetland systems, management is important to meet the needs of migratory birds, and proper habitat management depends on the refuges having operable levees, water control structures and pumping systems.

Responsibility of the U.S. Fish and Wildlife Service and the role of Ducks Unlimited

Ducks Unlimited stands ready to assist the federal government, and the U.S. Fish and Wildlife Service in particular, with the national effort to repair the massive hurricane damage along the Gulf Coast. DU has extensive experience in wetland restoration, including the design of wet soil management systems, wetland stabilization techniques, and topographic mapping. DU's professional staff includes some of the nation's most talented waterfowl biologists and wetland engineers along with a sophisticated Geographic Information Systems (GIS) mapping team. Our role will likely be one of a partner and professional service provider. We look forward to contributing to this national challenge.

As the Service gears up to address the many landscape and infrastructure challenges that it faces on the various national wildlife refuges damaged by Katrina and Rita, we believe it appropriate to reflect on the "public trust doctrine" that defines the Service's roles and responsibilities. The concept of public trust, which evolved from English common law, addresses the issue of how our country manages its natural resources for the general public good. The principle is that the government (mostly federal) has an affirmative duty and responsibility to administer, protect, manage, and conserve fish and wildlife resources for the benefit of current and future generations of Americans.

The public trust doctrine has evolved from a series of Supreme Court rulings dating back to the mid-1800s and various federal laws. The most notable federal laws that provide the basis of the public trust doctrine have been the Lacy Act, the Weeks-Mclean Law, the Migratory Bird Treaty Act of 1918, and various Migratory Bird Conventions and Treaties. All these court rulings and federal laws combine to outline the public trust responsibilities of the federal government. Most of the management responsibility falls under the purview of the U.S. Fish and Wildlife Service.

As this massive hurricane recovery effort continues, DU hopes that the U.S. Fish and Wildlife Service will pay particular attention to restoring capacity to manage for its trust species. Those of us who enjoy the great outdoors fully appreciate the wonderful job that the Service does while executing their duties and fostering the trust resources for which they are responsible. As priorities for repair and future management are established, the underlying natural resource should be given a very high priority. The natural resources that are being protected as habitat for wildlife on our NWRS should be repaired, restored, stabilized and conserved while other repair and operational issues are being addressed.

Conclusion

As substantiated in the testimony above, the Louisiana coast is vitally important to North American migratory birds, especially ducks. Continued loss of this unique wetland habitat will have a significant negative effect on North American duck populations and other migratory birds. Our nation is expected to spend well over $100 billion to recover from the disaster caused by Hurricanes Katrina and Rita. It is imperative that a portion of these funds be directed to

projects necessary to assure that Louisiana's population does not remain at risk in the future. This means restoring coastal wetlands and working to reduce future wetland loss.

We recognize that the response to this hurricane will involve several federal agencies and span many years. On behalf of over 1 million members and supporters of Ducks Unlimited, many of whom were directly impacted by these catastrophic storms, we join with the Chairman of the Resources Committee in recommending that the some of the funds made available through the President's February 16, 2006 supplemental appropriations request be directed to natural resource restoration. Special priority should be given to funding repairs of damaged habitat management infrastructure at Gulf Coast NWRs of greatest importance to migratory waterfowl.

The restoration of coastal wetlands in Louisiana has multiple benefits. These wetlands not only provide great wildlife and fish habitat but, even more importantly will serve as a natural hurricane and flood protection system to protect the huge taxpayer investment that will be made in the rebuilding of New Orleans, other Louisiana coastal communities, and the National Wildlife Refuges.